PLOT H, TOTTENHAM COMMERCIAL PARK

FIRE STATEMENT

SUBSTATION I NOVEMBER 2026

1 INTRODUCTION

1.1 This Fire Statement has been prepared in support of the full planning application for a proposed electricity substation at Plot H, Tottenham Commercial Park, Leeside Road, London N17 0QJ.

1.2 The proposed development comprises the demolition of existing Block H and construction of a fully enclosed substation. The facility would receive electricity from the adjacent National Grid infrastructure at 275 kV, transform it to 20 kV and distribute power to business occupiers. The design incorporates transformer compounds, gas-insulated switchgear, control and protection equipment, battery facilities and associated access and maintenance infrastructure.

1.3 This statement identifies the principal fire-safety considerations relevant at planning stage. It demonstrates that fire safety has been considered from the outset and that the layout is capable of accommodating appropriate fire prevention, containment, emergency access and operational measures.

1.4 It should be read alongside the application drawings and the Design and Access Statement. Detailed fire engineering design will be undertaken during the subsequent technical design and Building Regulations stages.

2 DEVELOPMENT AND SITE CONTEXT

2.1 Plot H is situated in the north-eastern part of Tottenham Commercial Park, adjoining Leeside Road. The surrounding area is predominantly characterised by industrial, storage, distribution and electricity infrastructure uses. The National Grid Tottenham Marsh Electricity Transformer Station lies to the south, with further National Grid infrastructure to the east. Leeside Road and the Meridian Water regeneration area lie to the north.

2.2 The substation would be:

- Fully enclosed within a purpose-designed building;
- Accessed from Leeside Road via the existing private Estate Road;
- Unmanned during normal operation;
- Operated principally through remote monitoring;
- Visited periodically for inspections, maintenance and meter readings.

2.3 The internal arrangement identifies four separate transformer compound areas, together with switchgear rooms, battery room and control, protection and telecommunications facilities.

3 FIRE-SAFETY OBJECTIVES

3.1 The fire-safety objectives for the development are to:

- Minimise the likelihood of fire through appropriate equipment selection, control and protection system, periodic monitoring and maintenance;
- Detect electrical faults and abnormal operating conditions promptly;
- Facilitate automatic isolation of affected equipment;
- Limit the spread of fire, heat and smoke between transformer compounds and other operational areas;
- Prevent fire spread to neighbouring buildings and adjoining land;
- provide safe and effective access for the London Fire Brigade;
- Contain potentially polluting substances within the site;
- Protect personnel attending the site during inspection, maintenance or emergency events;
- Ensure that the fire-safety arrangements remain effective throughout the operational life of the substation.

4 FIRE APPLIANCE ACCESS

4.1 The site is accessed from Leeside Road via the established internal Estate Road. The Estate Road already accommodates commercial and heavy goods vehicle movements associated with the surrounding industrial estate. The proposed substation would be approached from the west, with external doors and operational access provided on the north-western elevation.

4.2 The development will ensure that:

- A suitable route is maintained from Leeside Road to the principal emergency access point;
- The access route has sufficient width, headroom, load-bearing capacity and turning provision for fire appliances;
- The Estate Road is kept clear of parked vehicles, stored materials and operational obstructions;
- Access arrangements do not require a fire appliance to enter a transformer compound containing live high-voltage equipment;
- Any gates, barriers or security controls can be released promptly during an emergency.

5 SPATIAL SEPARATION

5.1 The proposed substation occupies a discrete plot within an established industrial estate. Its layout, construction and boundary relationships would limit the risk of fire spread to adjoining property and infrastructure.

5.2 The following considerations have informed the detailed design:

- The distance between the transformer equipment and external walls;
- The relationship between the building and the site boundaries;
- The position, use and construction of neighbouring buildings;
- The fire resistance of external walls, roofs and doors;
- The location and fire performance of transformer-compound walls;
- The location of drainage infrastructure;
- Access requirements for inspection, maintenance and emergency intervention.

5.3 Where the available physical separation does not, by itself, provide the necessary level of protection, appropriate passive fire-protection measures will be incorporated. These may include fire-resisting construction, compartmentation, fire-rated doors or shutters, protected service penetrations and transformer fire-barrier walls.

5.4 The precise fire-resistance requirements will be confirmed by the fire engineer once the transformer type, insulating medium and equipment manufacturer are known. The approach will take into account both the risk presented by the substation to adjoining development and the potential exposure of the substation to a fire originating on neighbouring land.

6 TRANSFORMER FIRE RISK

6.1 The principal fire hazards associated with the proposed development are expected to arise from high-voltage electrical equipment, transformers, cables, switchgear and ancillary control systems.

6.2 The proposal includes four power transformers converting electricity from 275 kV to 20 kV, together with dedicated transformers serving onward distribution. The planning drawings show separate transformer compound areas.

6.3 The detailed fire strategy will be informed by:

- The transformer type and manufacturer;
- The insulating and cooling medium;
- The volume and fire characteristics of any transformer oil;
- The operational temperature and credible fault conditions;
- The means of electrical protection and automatic isolation;
- The required fire separation between individual transformers; and
- The need for fixed fire detection, suppression or cooling systems.

6.4 For oil-filled transformers, the detailed fire strategy will address the possibility of:

- Internal electrical faults causing overheating or arcing;
- Rupture of the transformer tank or associated pipework;
- Release and ignition of insulating oil;
- Pool-fire development;
- Radiant heat affecting adjoining equipment or buildings;
- Smoke generation; and
- Firefighting water entering the surface-water system or surrounding environment.

6.5 Risk-reduction measures are expected to include appropriately rated protection relays, automatic fault isolation, temperature and pressure monitoring, fire walls, appropriately located ventilation and pressure-relief systems, and inspection and maintenance arrangements consistent with the final equipment specification.

6.6 The use of gas-insulated switchgear reduces the spatial extent of exposed electrical equipment by placing switchgear components within enclosed metal compartments.

6.7 Each relevant transformer area will incorporate an electrical protection system and containment arrangement designed to retain oil released during a credible failure.

6.8 The containment strategy will provide:

- An impermeable transformer base;
- Capacity appropriate to the oil inventory of the relevant transformer;
- Consideration of the volume of firefighting water or suppression discharge that could reasonably enter the containment system;
- Fire-resistant construction where required;
- Appropriate oil-water separation or treatment provisions;
- Safe access for inspection, maintenance and removal of contaminated liquids; and
- Protection against an uncontrolled discharge to surface water, groundwater or adjoining land.

6.9 Areas presenting an oil or firefighting-water risk will incorporate emergency isolation valves or equivalent controls, positioned so that they can be operated safely and identified clearly.

6.10 Following an incident, retained liquid will be assessed and, where contaminated, removed by an appropriately licensed contractor rather than discharged automatically to the drainage system.

7 EMERGENCY ACCESS

7.1 The substation will be a secure, controlled-access facility. Security arrangements are necessary because of the risks associated with high-voltage electrical equipment, but will be designed so that they do not cause avoidable delay to emergency responders.

7.2 Emergency arrangements will include:

- A clearly identified emergency entrance;
- A suitable emergency-release or controlled-access arrangement;
- Provision for access outside normal working hours;
- A 24-hour emergency contact number displayed at the entrance;
- Clear substation identification and electrical-hazard signage;
- Information identifying the location of transformers, switchgear, isolation controls and oil-containment systems;
- Arrangements for attendance by an authorised electrical engineer;
- Procedures for isolation, earthing and confirmation that equipment is safe to approach;
- An emergency response plan available to the site operator and emergency services; and
- Periodic review and testing of emergency-access and communication procedures.

7.3 Firefighters would not be expected to enter a live high-voltage compound or apply water to energised equipment without confirmation from an authorised electrical person that the relevant equipment has been isolated and made safe. The operational emergency plan will therefore establish clear communication and command arrangements between the site operator and emergency services.

7.4 Because the substation would ordinarily be unmanned and remotely monitored, the operational procedures will also address:

- Automatic alarm transmission;
- Remote fault identification;
- Escalation to the duty engineer;
- Attendance arrangements;
- Safe shutdown and isolation;

- Control of access following an incident; and
- Inspection and recommissioning of affected equipment.

7.5 Notwithstanding the low and intermittent occupancy, the detailed design will provide:

- Safe escape from all normally accessible rooms and operational areas;
- Suitable travel distances and exit widths;
- Outward-opening final exits where required;
- Emergency lighting and fire-safety signage;
- Fire detection and alarm provision appropriate to the risk;
- Fire-resisting separation between transformer areas, switchgear, control rooms and escape routes;
- Appropriate control of doors serving high-voltage areas;
- Management of maintenance activities and permit-to-work procedures; and
- Suitable arrangements for any person who may require assistance to evacuate.

8 LONDON PLAN POLICY D12

8.1 London Plan Policy D12 requires development proposals to achieve the highest standards of fire safety, embedding fire safety into the design at the earliest stage. For major development, the policy requires submission of a standalone Fire Statement explaining the fire-safety objectives, performance requirements, protection of occupants and property, and arrangements for fire-service access and firefighting.

8.2 The proposed development responds to Policy D12 by:

- **Identifying fire risks at planning stage:** The design recognises the hazards associated with transformers, high-voltage equipment and switchgear;
- **Providing appropriate fire-service access:** The scheme is served from Leeside Road via the existing Estate Road, which allow for appliance access and emergency entry arrangements;
- **Reducing fire spread:** Transformer areas and other significant hazards will be separated through distance, compartmentation and fire-resisting construction appropriate to the final equipment specification;
- **Protecting occupants and attending personnel:** Although normally unmanned, the building will include suitable escape, alarm, signage and emergency-access provisions for authorised personnel;
- **Supporting effective firefighting:** Emergency information, electrical-isolation arrangements, oil containment and safe appliance positioning will be incorporated;
- **Accounting for the full life of the development:** Fire-safety information will be maintained and updated to reflect equipment replacement, alteration or other future changes;
- **Maintaining fire-safety measures:** Inspection, testing, maintenance and emergency-response responsibilities will be defined within the operational management arrangements.

8.3 The GLA guidance emphasises that fire safety, emergency vehicle access, equipment, personnel access and evacuation should be considered from the outset and applied consistently through design, construction and ongoing management.

8.4 On the basis of the design principles and commitments set out above, the proposed development satisfies the requirements of London Plan Policy D12.

8.5 This statement establishes the planning-stage fire-safety principles for the development. It does not replace the detailed fire strategy or the separate approvals required under the Building Regulations and other applicable legislation.

8.6 A detailed fire strategy will be prepared by a suitably qualified and competent fire engineer as the design progresses and can be secured by condition if required. It will be coordinated with the architecture, electrical infrastructure, structural design, drainage strategy, building services and operational procedures. Where relevant, consultation will be undertaken with the Building Control body, London Fire Brigade, electrical network operator and other statutory bodies. Any recommendations arising from that process will be incorporated into the detailed design.